

## A BIBLIOGRAPHY OF "BLACKFELLOWS' BREAD",

### *Polyporus mylittae* Cooke & Massee

by

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The densely compacted and agglutinated subterranean masses formed by the mycelium of *Polyporus mylittae* are among the world's largest examples of fungal sclerotia. It is not uncommon for these bodies to attain a diameter of 20–30 cm. and weights of 4 kilograms or more. They have always been objects of curiosity to country folk and scientist alike. The exceedingly hard perennial sclerotium is dark, stone-like and finely wrinkled on the exterior, but in section it appears creamy-white, coarsely and marmorately granular. Fructifications are rarely found; they may be induced, however, by keeping fragments of a fresh sclerotium in a warm place. The mature fruiting body is pileate (5–10 cm. wide), centrally stipitate, white or tinged with pale yellow, smooth and soft to touch.

Although this remarkable endemic fungus is now known to occur in temperate parts of all Australian States, it was apparently not noted in literature before 1834—46 years after the initial settlement—and the first account of a sporophore would seem to have been in 1892. Until that date its affinities were thought to have been with the truffles (*Tuberales*), and *Mylitta australis* Berk. (1839) was the name applied to it.

Habitat varies from the extreme of arid Mallee limestone tracts to deep volcanic loams in mountain forests of high rainfall, and the species is certainly more frequent in the latter environment. Perhaps it is obligately associated with eucalypt roots, and thus independent of soil type? Apparently it is of quite rare occurrence in Queensland, South and Western Australia. Known localities for *Polyporus mylittae*, culled from herbarium specimens, published records and field notes, are as follows (localities being arranged from west to east and from south to north, and collections in Melbourne Herbarium being designated by the bracketed letters "MEL"):

WESTERN AUSTRALIA (first recorded 1919)—

Denmark; Margaret River (both in Karri forest).

SOUTH AUSTRALIA (first recorded 1904)—

Denial Bay; Myponga; Mypolonga district on Murray River.

VICTORIA (first recorded 1861)—

Lake Hindmarsh; Wimmera R.; Digby; Lake Condah; Nullawarre near Childers Cove; Camperdown (photo. in MEL); Somerville; Merricks North; East Doncaster; Montrose; Dandenong Ranges at

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\* National Herbarium of Victoria.

Fern Tree Gully, Kallista (MEL), Emerald & Cockatoo (MEL); Beenak; Yarra Glen; Healesville (MEL); Warburton; Britannia Ck.; Drouin; Noojee; Walhalla; near Tyers; Kardella near Korumburra; Toongabbie; Rosedale; Sale & Maffra districts; Stockdale; Whitlands; Beechworth (MEL); Yackandandah.

#### TASMANIA (first recorded 1834)—

Southport; Bellerive; Bothwell; Middle Arm on Tamar R.; Deloraine; "N.W. Coast"; King Island.

#### NEW SOUTH WALES (first recorded 1851)—

Bombala; Wolumla, N. of Pambula; Braidwood; Sassafras; Barber's Ck. near Goulburn; Bundanoon and Robertson near Moss Vale; Burragorang; Eastwood & Epping near Sydney; Mt. Wilson; Lithgow; Bathurst; Molong district; Mudgee; Lake Macquarie; Walcha; Coff's Harbour; Dorrig; Oberon; Inverell; Wallangarra on Queensland border.

#### QUEENSLAND (first recorded 1883)—

Toowoomba; Lamington National Park & Springbrook in far S.E.

#### NEW ZEALAND (first recorded 1965, presumably introduced with eucalypt railway sleepers)—

Matapihi near Auckland.

The earliest note on this fungus (Backhouse, 1834) refers to its use as an article of food by Tasmanian aborigines; but it is almost incredible that such hard sclerotia could be eaten at all—in the young fresh state they have somewhat the consistency of very rubbery gristle, while dried examples are always as hard as horn. Native tribesmen of the Camperdown district in western Victoria knew it as "Tandarook", a name now perpetuated in that of the old Curdie homestead near the upper reaches of Curdie's River.

No bibliography of literature concerning this fungus has been published for more than 60 years (see McAlpine, 1904). In the following chronological list of 75 references, prefixing asterisks (\*) indicate that an illustration accompanies the reference. The list is believed to be fairly complete as to books and scientific journals, but no search has been made of any newspaper files. Periodicals and books are cited in *Italic type*:

1834.

BACKHOUSE, J.—On the roots and other indigenous esculents of the Colony. *Van Diemen's Land Almanack* [Apparently the first mention of the fungus in literature—called "Native Bread"].

1836.

HOOKE, W. J.—*Compan. Bot. Mag.* 2: 40 [A repetition of Backhouse's note of 1834, q.v.].

1839.

BERKELEY, M. J.—Contributions towards a flora of Van Diemen's Land. *Ann. Mag. nat. Hist.* 3: 325–26 [Original description of the sclerotium, under the name *Mylitta australis* and considered to be a member of the *Tuberales*].

1841.

GUNN, R. C.—Remarks on the indigenous vegetable productions of Tasmania available as food for man. *Tasm. J. nat. Sci. Agric. Statist.* etc. 1: 48–49 [Short description of sclerote and its mode of occurrence—virtually a re-publication of the observations by Backhouse in 1834, q.v.].

1843.

BACKHOUSE, J.—*Narrative of a Visit to the Australian Colonies*. Appendix D ("Remarks on the indigenous vegetable productions of Tasmania, available as food for man"): xl [A repetition of his observations in 1834 (q.v.), noting "*Mylitta Australis* (Native Bread)" as a source of food for Tasmanian aborigines].

1846.

BRETON, W. H.—*Tasm. J. nat. Sci. Agric. Statist.* etc. 2: 463 [Reference to a sclerote weighing  $25\frac{1}{4}$  lb.].

1848 (Dec.).

BERKELEY, M. J.—*Gdnrs' Chron.* 1848: 829 [Brief note concluding article on American "Tuckahoe"].

1850.

ANON.—*Pap. roy. Soc. Tasm.* ("V.D.L.") 1: 157, 174 [Brief notes on specimens exhibited].

1851.

TULASNE, L. R.—*Fungi Hypogaei* 199 [A long description in French of the sclerote, and Tulasne hints that the mycelium is analogous to that of *Polyporus tuberaster* Fr. It is recorded for the first time from New South Wales].

1854.

\* CORDA, A. C. J.—*Iconum Fungorum* 6: 49–50, t. 9 fig. 93 [Long discussion of sclerote, with illustration of a section and hyphae, under the name *Mylitta australis*].

1857.

BERKELEY, M. J.—*Introduction to Cryptogamic Botany* 254 (Note 250) [Edibility and uses of *Mylitta australis*].

1859.

BERKELEY, M. J.—Fungi, in J. D. Hooker's *Flora Tasmaniae* 2: 277 [Record and brief comment].

1861.

MUELLER, F. J. H.—*Annu. Rep. Govt. Bot., Melbourne* (Sixth Systematic Index of Plants): 18 [First record for Victoria of *Mylitta australis*].

1873.

BERKELEY, M. J.—*Australian Fungi. J. Linn. Soc. (Bot.)* 13: 175 [Brief description of *Mylitta australis* var. *minor* which may be, as suspected by Cleland & Cheel (1917), identical with *Polyporus minor-mylittae* Cleland & Cheel].

1878.

SMYTH, R. B.—*The Aborigines of Victoria* 1 (Vegetable Food): 209 [Brief note on appearance of the "native truffle"].

1883 (Mar.).

COOKE, M. C.—*Australian Fungi. Grevillea* 11:104 [*Mylitta australis* recorded for four States—Tas., Vic., N.S.W., Qd. (for first time)].

1884.

\*SOUTHALL, W.—Note on a specimen of *Mylitta australis*. *Year Book of Pharmacy* 524, with figure of transverse section; also repeated in *Pharm. J. ser. 3*, 15: 210 (Sept. 1884) [Maiden in 1893 considered this article to be "the best that has appeared on the subject"].

1886.

TISDALL, H. T.—Fungi of North Gippsland, Part 2. *Vict. Nat.* 2: 109 [The first published reference to a fructification on *Mylitta australis*, although Tisdall did not then realize its significance].

1888.

BAILEY, F. M.—*Synops. Qd Flor. Suppl.* 2: 130 [Cook's record of 1883 repeated, with brief description of context of sclerote—species known only from Toowoomba district].

1889.

MAIDEN, J. H.—*The Useful Native Plants of Australia* 46 [Brief notes on character of sclerote and its use as food by aborigines, under the name *Mylitta australis*].

1891.

COHN, F., and SCHROETER, J.—*Untersuchungen über Pachyma und Mylitta. Abh. Naturw. Hamburg* 11<sup>2</sup> 13–14 [Description of two pieces of sclerotia in Berlin Museum].

FISCHER, E.—*Hedwigia* 30: 61.

1892.

COOKE, M. C.—*Handb. Aust. Fungi* 249 [Short description of sclerote and its distribution in four States].

COOKE, M. C.—A mystery solved. *Gdnrs' Chron.* ser. 3, 12: 526 (Oct. 29) [The identity of *Mylitta australis* with a species of *Polyporus* in the section *Ovinus* proved at last, by appearance of a sporophore on a sclerotium].

COOKE, M. C., and MASSEE, G.—*Australian Fungi. Grevillea* 21: 37 (Dec.) [Original description of *Polyporus mylittae*—type stated to be from South Australia, but the collection in Kew was from Beechworth, Victoria—by J. W. Howard].

1893.

McALPINE, D.—Native Bread. *Aust. J. Pharm.* 8: 291–92 (Sept.) [Various observations, bringing information on subject up-to-date].

SACCARDO, P. A.—Mycetes aliquot Australienses. *Hedwigia* 32: 56 (Mar.) [An independent description of *Polyporus mylittae*, but based upon material of *P. portentosus* from Western Port, Vic.].

\*MAIDEN, J. H.—Native Bread or Native Truffle (*Polyporus Mylittae* C. et M.). *Agric. Gaz. N.S.W.* 4: 909–912 (Dec.), with 3 figs. [General discussion and résumé of literature to date].

1895.

SACCARDO, P. A.—*Sylloge Fungorum* 11 (Suppl. Univers.): 83 [Description in Latin].

McALPINE, D.—*Systematic Arrangement of Australian Fungi* 40–41 (n. 691) [Listed with distribution and very brief description].

1902.

\*BAKER, R. T.—Contributions to a knowledge of the flora of Australia, Part IV. *Proc. Linn. Soc. N.S.W.* 27: 542–44, tt. 22–23 [Discussion of development of sporophores on a sclerote from Lithgow, N.S.W., with two good photographs].

1904.

TISDALL, H. T.—Notes on the Native Bread, *Polyporus mylittae*. *Vict. Nat.* 21: 56–59 (Aug.) [Article of general interest summarizing personal observations].

McALPINE, D.—Bibliography of the Fungus *Polyporus mylittae* Cooke and Massee. *Vict. Nat.* 21: 59–60 (Aug.).

\*McALPINE, D.—Native or Blackfellows' Bread. *J. Dep. Agric. Vict.* 2: 1012–1020 (Dec.), with 5 photographic figs. [Comprehensive paper on history, nature, edible qualities, chemistry, fructification, origin of sclerotium, technical



description and literature to date, accompanied by two plates of sclerotia (all sizes) and three of fully developed sporophores].

ANON.—*Trans. roy. Soc. S. Aust.* 28: 304 (Dec.) [Note on exhibit by A. H. C. Zietz of a sclerote from Myponga—the first undoubted record of *Polyporus mylittae* for South Australia].

1907.

O'CONNOR, D.—Mushrooms or Truffles? *Qd agric. J.* 19: 70 (Aug.) [Sizes and weights given for two sclerotia, presumably from Queensland].

1908.

MAIDEN, J. H.—Records of Victorian Botanists. *Vict. Nat.* 25: 105 (Nov.) [Note on aboriginal name for fungus in Camperdown district, viz "Tandarook"].

1911.

EWART, A. J.—Fruiting of "Blackfellow's Bread" (*Polyporus Mylittae* Cooke). *Proc. roy. Soc. Vict. new ser.* 24: 59–60 [Discussion on conditions necessary for fructification].

LLOYD, C. G.—Synopsis of the Section *Ovinus* of *Polyporus*. *Mycological Writings of C. G. Lloyd* 3: 76, 92 (Oct.) [Short notes on *P. mylittae*].

1912.

LLOYD, C. G.—Synopsis of the Stipitate Polyporoids. *Mycological Writings of C. G. Lloyd* 3: 167 (Mar.) [Brief mention of *Polyporus mylittae*].

LLOYD, C. G.—*Mycological Notes* No. 38. *l.c.* 4: 518 (Nov.) [Comment on Ewart's article of 1911 (q.v.)].

1913.

BAILEY, F. M.—*Compr. Cat. Qd Plants* 728 [*Polyporus mylittae* listed as "Stone Fungus"].

1915.

LLOYD, C. G.—Letter No. 58. *Mycological Writings of C. G. Lloyd* 4: 5 (July) [Description of specimen of *Polyporus mylittae* from E. Cheel, N.S.W., with note that species should be moved from Section *Ovinus* to Sect. *Lignosus*].

LLOYD, C. G.—*Mycological Notes* No. 69 *Mycological Writings* figs. 728–732 (Dec.) [Notes, with 6 photographs of fruiting material from E. Cheel, N.S.W.].

1917.

CLELAND, J. B., and CHEEL, E.—Notes on Australian Fungi, No. IV. *Polyporus*, *Fomes* and *Hexagona*. *J. roy. Soc. N.S.W.* 51: 493 [Note on *P. mylittae*, also original description of the

related sclerotiferous *P. minor-mylittae* which G. H. Cunningham, 1965, considers to be inseparable from *P. mylittae*].

1919.

PITCHER, F.—*Vict. Nat.* 35: 147 (Feb.) [Note on exhibit of young sclerotes at Field Nats'. Club Vict. References to previous exhibits will be found in *Vict. Nat.* 33: 111 (Dec. 1916) and 35: 45 (July 1918)].

CURRIE, C. C. (Miss)—*Vict. Nat.* 36: 112 (Dec.) [Note on exhibit of specimen from Lardner, Vic.].

\*CLELAND, J. B., and CHEEL, E.—*Australian Fungi: Notes and Descriptions*, No. 2—The sclerotia-forming Polypores of Australia. *Trans. roy. Soc. S. Aust.* 43: 11–14, tt. 1–2 [Discussion, with lists of collections of both *Polyporus mylittae* and *P. minor-mylittae* in Australian museums and herbaria, accompanied by colour plate and two photographs of *P. mylittae* which is recorded as Western Australian for the first time, but without locality data].

1921.

HERBERT, D. A.—*Contributions to the Flora of W.A.*, No. 2. *J. roy. Soc. W. Aust.* 7: 70 [Second record of *P. mylittae* for Western Australia—specimen from Denmark where "fairly often ploughed up"].

1922.

\*LEACH, J. A.—*Australian Nature Studies* 133, t. 52 fig. 7 [Paragraph and line-drawing of *P. mylittae*].

PESCOTT, E. E.—*Vict. Nat.* 38: 104 (Feb.) [Note on exhibit of fructification at Field Nats'. Club].

1923.

BARNARD, F. G. A.—*Polyporus mylittae*. *Vict. Nat.* 39: 151, 159–160 (Mar.) [Note on exhibit, personal observations on various collections, and discussion of origin of the first sporophores to be examined—the rôles of H. T. Tisdall and Miss F. M. Campbell in elucidating the nature of the fungus].

LLOYD, C. G.—*Mycological Notes* No. 69. *Mycological Writings of C. G. Lloyd* 7: 1216 (July) [Intimation that Saccardo's independent description of *Polyporus mylittae*, in 1893, was actually based on a Western Port specimen of *P. eucalyptorum* (i.e. *P. portentosus*) in his herbarium at Padua, Italy].

1924.

\*LLOYD, C. G.—*Mycological Notes* No. 71. *Mycological Writings of C. G. Lloyd* 7: 1260, fig. 2752 (Jan.) [Note and photograph of a fruiting specimen of *P. mylittae* in Kew Herbarium—from Ferntree Gully, Vic.].

1925.

ROLFE, R. T. & F. W.—*The Romance of the Fungus World* 178 [Brief note on "native bread" of the Australians].

HARDY, A. D.—Friends and foes of the forester. *Gum Tree* 8: 11 (June) [Brief mention].

1931.

\*STUART-DOVE, H.—On the sporophore of the Native Bread (*Polyporus mylitta*). *Pap. roy. Soc. Tasm.* 1930: 94–95, t. 4 (Mar.) [Account of developing sporophore, during 25 days, on a fresh sclerote from N.W. Coast, Tas., with two photographs].

FRENCH, C., DALEY, C., & PITCHER, F.—*Vict. Nat.* 48: 2 (May) [Notes on exhibits of various specimens at meeting of Field Nats'. Club Vict.]

1934.

\*WILLIS, J. H.—"Beef-steak", "Punk" and "Blackfellows' Bread". *Vict. Nat.* 50: 301, tt. 46–47, fig. 2 [Descriptive paragraph on *Polyporus mylittae*, with two photographs and a line-drawing].

1935 (June).

\*CLELAND, J. B.—*Toadstools and Mushrooms and other Larger Fungi of South Australia*. Part 2: 209, t. 9 [Full descriptions of *Polyporus mylittae* and *P. minor-mylittae*, with reproduced watercolour study of both species].

1941.

\*WILLIS, J. H.—*Victorian Fungi* 62–63, t. 12 & fig. 13 [Brief note on "Blackfellows' Bread", with photograph and line-drawing of fruiting sclerotes].

1942.

BARRETT, C. L.—*From a Bush Hut* 102 [Conversational account of a sclerote].

1943.

AINSWORTH, G. C., and BISBY, G. R.—*A Dictionary of the Fungi* 242 [Mention of *Polyporus mylittae* as a species of peculiar interest]. Edition 5 in 1963 (p. 54, under "blackfellows' bread").

1948 (Apr.).

\*MORRISON, P. C.—"Blackfellows' Bread". *Wild Life, Melb.* 10: 180 [Note and two photographs of sclerote].



1949 (May).

MORRISON, P. C.—"Blackfellows' Bread". *Wild Life, Melb.* 11: 227-28 [Notes on use for food by aborigines, from Karl Glance's literary researches].

1950.

\*WILLIS, J. H.—*Victorian Toadstools and Mushrooms* 62-63, t. 12 & fig. 13 [Details as for Willis 1941 (q.v.)].

CUNNINGHAM, G. H.—*Australian Polyporaceae* in Herbaria of Royal Botanic Gardens, Kew, and British Museum of Natural History. *Proc. Linn. Soc. N.S.W.* 75: 233 (Sept.) [Note that only sclerotia are present at Kew].

1951.

\*WILLIS, J. H.—Fungus friends and foes. *Aust. Junior Encycl.* 2: 719 [Brief note, with photograph of sclerotium].

1952 (Mar.).

STEWART, H. C. E.—Research on the fungus "Blackfellow's Bread". *Vict. Nat.* 68: 190 [Request for fresh sclerotia and fruiting bodies for Plant & Soils Laboratory of C.S.I.R.O., Brisbane].

1957 (June).

\*WILLIS, J. H.—*Victorian Toadstools and Mushrooms* ed. 2: 70 & 73, with two illustrations [Details as for Willis 1941 & 1950 (q.v.)].

1958.

WILLIS, J. H.—Fungi. *Aust. Encycl.* 4: 232 (Mar.) [Brief note].

\*DANIELL, Thelma C.—"Fascinating fungi" in *Your Garden* 114: 50 & 52 (Apr.) [Colour photo. of sclerote and brief remarks].

1959 (Dec.).

STAHL, W.—"Blackfellows' Bread", an interesting fungus (*Polyporus mylittae*). *News Lett. Inst. For. Aust.* 25: 23-24.

1963 (Dec.).

\*WILLIS, J. H.—*Victorian Toadstools and Mushrooms* ed. 3: 70 & 73, with two illustrations [Details as for Willis 1941, 1950 & 1957 (q.v.)].

1965 (Dec.).

\*CUNNINGHAM, G. H.—*Polyporaceae* of New Zealand. *N.Z. Dep. sci. industr. Res. Bull.* 164: 81-82, fig. 12 [Detailed description of sporophore, with notes on several collections and line drawing of a New Zealand occurrence—presumably introduced—in ballast of a railway track near Auckland. *Polyporus minor-mylittae* Cleland & Cheel is relegated to synonymy under *P. mylittae*].

## PLATE XIII

A



B



*Polyporus mylittae* Cooke & Masee.

A. Small fructifications on sclerote—Photo.: late E. E. Pescott.

B. Hymenial and upper surfaces of large fructifications on sclerote—Photo.: late H. T. Reeves.